

A2 [0033] Exemplary curative agents include dicyandiamide, 3,3'-diaminodiphenylsulfone (3,3'-DDS), amino or glycidyl-silanes such as 3-amino propyltriethoxysilane, CuAcAc/Nonylphenol (1/0.1), 4,4'-diaminodiphenylsulfone (4,4'-DDS), 4,4'-methylenebis(2-isopropyl-6-methylaniline), e.g., Lonzacure M-MIPA (Lonza Corporation, Fair Lawn, NJ), 4,4'-methylenebis(2,6-diisopropylaniline), e.g., Lonzacure M-DIPA (Lonza Corp., Fair Lawn, NJ). Dicyandiamide and 3,3'-DDS are preferred curative agents. Especially preferred are combinations of 3,3'-DDS and dicyandiamide.

A3 [0042] Resin was prepared having the following formulation:

23 weight percent MY-0510 (N,N-Diglycidyl-4-glycidylloxylaniline)

25 weight percent GY281 (bis-F epoxy)

19 weight percent 3,3'-Diaminodiphenylsulfone (3,3'-DDS)

7 weight percent ULTEM® 1000P (polyetherimide)

26 weight percent densified PES

A4 [0050] Resin was prepared having the following formulation:

27.0 weight percent MY-0510 (N,N-Diglycidyl-4-glycidylloxylaniline)

24.9 weight percent GY285 (bis-F epoxy)

15.8 weight percent 3,3'-Diaminodiphenylsulfone

1.3 weight percent Dicyandiamide

13.5 weight percent micronized Polyethersulfone (PES)

17.5 weight percent densified Polyethersulfone (PES)

[0051] Resin formulations in accordance with this example may also be made wherein the amounts of MY-510, GY281 and 3,3'-DDS are varied by up to $\pm 15\%$. Also, the amounts of both types of PES may be varied by as much as $\pm 40\%$. The amount of dicyandiamide may be varied by up to $\pm 50\%$.

[0052] The densified PES was the same as used in Examples 1 and 2. Average particle size was 10-25 microns with no more than 13 weight percent smaller than 5 microns and

af no more than 4 weight percent greater than 40 microns. 24.9 parts by weight of GY285 and 6.0 parts by weight of MY0510 were mixed in a resin kettle and heated, with stirring, to 65°C. Once this temperature is attained, 13.5 parts by weight micronized PES 5003P is added to the resin kettle. The mixture is then heated to $128 \pm 2^\circ\text{C}$ and held at this temperature for 75 minutes. At the end of 75 minutes, heating is removed and 21 parts by weight of MY0510 are added to the kettle. Stirring is continued as the mixture cools to 65°C. 15.8 parts of 3,3'-DDS is added and mixed for 15 minutes. 1.3 parts of dicyandiamide is then added and the mixture stirred for 5 minutes at 65°C. Finally, 17.5 parts of densified PES is added and stirred in for 10 minutes. The minimum viscosity of the resin was measured as set forth in Example 1 and found to be about 370 poise. Panels were prepared by first forming a prepreg of 193 gsm 3K PW carbon fabric containing 70 grams of resin per square meter. The prepreg was formed as follows:

as [0056] Resin was prepared following the same procedure as set forth in Comparative Example 1 except that the ingredient amounts were as follows:

23 parts by weight MY-0510

25 parts by weight GY281

19 parts by weight 3,3'-DDS

4.5 parts by weight ULTEM® 1000p

26 parts by weight densified PES

The minimum viscosity of the resin was measured as set forth in Example 1 and found to be 123 poise.

ab [0058] Resin was prepared following the same procedure as set forth in the preceding Comparative Examples except that the ingredient amounts were as follows:

50 parts by weight MY-0510

50 parts by weight GY281

47.6 parts by weight 3,3'-DDS

0.0 parts by weight ULTEM® 1000p

30 parts by weight non-densified PES

a6 The minimum viscosity of the resin was measured as set forth in Example 1 and found to be about 30 poise.

a7 [0060] Resin was prepared following the same procedure as the previously described Comparative Examples except that the ingredients were as follows:

13.6 parts by weight MY721

11.8 parts by weight MY-0510

25 parts by weight GY281

5 parts by weight Matrimide 9725

20 parts by weight 3,3'-DDS

25 parts by weight densified PES

IN THE CLAIMS —

Please amend the claims as follows:

a8 1. (Amended) A self-adhesive prepreg for bonding to a honeycomb, said self-adhesive prepreg comprising:

at least one fiber layer;

a resin which has been combined with said fiber layer to form said self-adhesive prepreg which includes a bonding surface that is adapted to be bonded directly to said honeycomb, said resin comprising a thermosetting resin, a curing agent, a thermoplastic viscosity control agent which is substantially dissolved in said thermosetting resin, said thermoplastic viscosity control agent being selected from the group consisting of polyetherimides and micronized polyethersulfone; and

thermoplastic fillet forming particles which are not dissolved to a substantial degree in said prepreg resin and wherein the amounts of said resin dissolved thermoplastic viscosity control agent and said thermoplastic fillet forming particles are